

Notice of Allowability**Application No.**

10/814,260

Examiner

JAVIER G. BLANCO

Applicant(s)

TOWNSEND ET AL.

Art Unit

3774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Response/Amendment filed on September 11, 2008.
2. ☒ The allowed claim(s) is/are 1-11 and 40-49.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 11/5/2008; 5/8/2009
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 5/19/2009.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Javier G. Blanco/
Examiner, Art Unit 3774

DETAILED ACTION

Response to Amendment

1. Applicants' amendment of claims 1, 12, 30, 31, and 40 in the reply filed on September 11, 2008 is acknowledged.

Terminal Disclaimer

2. The terminal disclaimer filed on September 11, 2008 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of U.S. Serial Nos. **10/473,682** and **10/594,796** has been reviewed and is accepted. The terminal disclaimer has been recorded.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Attorney Ronald J. Shore on May 19, 2009.

The application has been amended as follows:

Claim 1 (Currently Amended) A method of generating kinetic power for propulsive force in a lower extremity prosthesis including a longitudinally extending foot keel, an ankle and an

elongated, upstanding shank above the ankle for connection with a lower extremity prosthetic socket on a person's leg stump, the method comprising:

providing (a) an upstanding monolithically formed resilient member which forms the ankle and the shank in the prosthesis with a lower end of the resilient member terminating posteriorly and connected to the foot keel, the lower end of the resilient member anteriorly extending upwardly by way of an anterior facing convexly curved surface to form the ankle, the resilient member extending upwardly in a substantially curvilinear manner substantially above human ankle joint height and the ankle to form the shank and defining a lower prosthetic part of a leg, wherein the resilient member is curved longitudinally over at least substantially the entire height of the member above the foot, and wherein the shank has an upper end which during use of the lower extremity prosthesis is moved longitudinally with respect to the foot keel during force loading and unloading of the lower extremity prosthesis; and

changing the ankle torque ratio of the lower extremity prosthesis in gait by using a posterior calf device on the lower extremity prosthesis to effect a change in the sagittal plane flexure characteristic for longitudinal movement of the upper end of the resilient member in response to force loading and unloading during a person's use of the lower extremity prosthesis, the ankle torque ratio being defined as the quotient of the peak dorsiflexion ankle torque in the late terminal stance phase of gait divided by the plantar flexion ankle torque created in the lower extremity prosthesis in the initial foot flat loading response after heel strike in gait, wherein said posterior calf device (assisting) assists posterior movement of the upper end of the resilient member and (controlling) controls anterior movement of the upper end of the resilient member during use of the prosthesis, and wherein the posterior calf device is located posterior of the

resilient member and includes at least one strap connecting the upper end of the resilient member and the lower portion of the lower extremity prosthesis, and at least one spring which is resiliently biased by the at least one strap in response to anterior movement of the upper end of the resilient member for storing energy.

Claim 2 (Currently Amended) The method according to claim 1, wherein said assisting posterior movement includes resiliently biasing the upper end of the resilient member for posterior movement using (a) the device provided on the prosthesis.

Claim 3 (Currently Amended) The method according to claim 1, wherein said controlling anterior movement limits the range of anterior movement of the upper end of the resilient member using (a) the device provided on the prosthesis.

Claim 4 (Currently Amended) The method according to claim 1, wherein said controlling the anterior movement includes resisting the anterior movement of the upper end of the resilient member using (a) the device provided on the prosthesis.

Claim 5 (Currently Amended) The method according to claim 1, wherein said controlling the anterior movement includes resiliently biasing (a) the at least one spring of the device on the prosthesis during anterior movement of the upper end of the resilient member to store energy in the device with force loading of the prosthesis in gait, the device returning the stored energy during force unloading of the prosthesis adding to the propulsion of the person's body in gait.

Claim 6 (Currently Amended) The method according to claim 1, wherein said assisting and said controlling increase the ankle torque ratio of the prosthesis in gait (~~the ankle torque ratio being defined as the quotient of the peak dorsiflexion ankle torque that occurs in the prosthesis in the late terminal stance of gait divided by the plantar flexion ankle torque created in the prosthesis in the initial foot flat loading response after heel strike in gait).~~

Claim 11 (Currently Amended) he method according to claim 10, (~~wherein said foot includes a foot keel and said~~) including providing (~~the~~) said foot keel with high low dynamic response capability (~~includes~~) including forming a midfoot portion of the foot keel with a longitudinal arch with a medial aspect larger in radius and with a relatively higher dynamic response capability than a lateral aspect of the arch.

Claims 12-39 have been cancelled.

Claim 40 (Currently Amended) A method of generating power for propulsive force in a prosthetic foot comprising:

providing a prosthetic foot having a longitudinally extending foot keel and a monolithically formed resilient calf shank forming an ankle and an elongated, upstanding shank above the ankle for connection with a lower extremity prosthetic socket on a person's leg stump, the calf shank having a lower end terminating posteriorly and connected to the foot keel, the lower end of the calf shank anteriorly extending upwardly by way of an anterior facing convexly

curved surface to form the ankle, the resilient calf shank extending upwardly in a substantially curvilinear manner substantially above human ankle joint height and the ankle to form the lower prosthetic part of a leg, wherein the resilient calf shank is curved longitudinally over at least substantially the entire height of the calf shank above the foot keel and has an upper end which during use of the prosthetic foot is moved longitudinally with respect to the foot keel during force loading and unloading of the prosthetic foot; and

changing the ankle torque ratio of the prosthetic foot in gait by using a posterior calf device located on the prosthetic foot posterior of the calf shank and connecting the upper end of the calf shank and a lower portion of the prosthetic foot to effect a change in the sagittal plane flexure characteristic for longitudinal movement of the upper end of the calf shank in at least the anterior direction in response to force loading and unloading during a person's use of the prosthetic foot, the ankle torque ratio being defined as the quotient of the peak dorsiflexion ankle torque in the late terminal stance phase of gait divided by the plantar flexion ankle torque created in the prosthetic foot in the initial foot flat loading response after heel strike in gait.

4. Claims 1-11 and 40-46 are allowable. The restriction requirement, as set forth in the Office action mailed on April 10, 2007, has been reconsidered in view of the allowability of claims to the elected invention pursuant to MPEP § 821.04(a). **The restriction requirement is hereby withdrawn as to any claim that requires all the limitations of an allowable claim.** Claim s 47-49, directed to a non-elected species, are no longer withdrawn from consideration because the claim(s) requires all the limitations of an allowable claim (independent claim 40).

In view of the above noted withdrawal of the restriction requirement, applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Once a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. See *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Javier G. Blanco whose telephone number is 571-272-4747. The examiner can normally be reached on M-F (9:00 a.m.-7:00 p.m.), first Friday of the bi-week off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Isabella can be reached on (571)272-4749. The fax phone numbers for the organization where this application or proceeding is assigned is 571-273-8300 for regular communications and After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

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applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Javier G. Blanco/

Examiner, Art Unit 3774

/David H Willse/

Primary Examiner, Art Unit 3738